



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/779,426	02/08/2001	Daniel L. Roth	10663-013001	5617

26161 7590 11/29/2006

FISH & RICHARDSON PC  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER
----------

VO, HUYEN X

ART UNIT	PAPER NUMBER
----------	--------------

2626

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/779,426

Applicant(s)

ROTH ET AL.

Examiner

Huyen X. Vo

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 17-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 17-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-8, 17-22, 24-32, and 34-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Iso-Sipilaet et al. (US 6697782).

3. Regarding claims 1 and 17, Iso-Sipilaet et al. disclose a feedback process and method for providing feedback for unrecognized speech comprising:

a speech input process for receiving a speech command as spoken by a user  
(*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*); and

an unrecognized speech comparison process, responsive to said speech input process, for comparing said user's speech command to a plurality of recognized speech commands available in a speech library (*memory 4 in figure 5 contains speech recognition models*) according to acoustical scores that indicate a level of acoustical match between the user's speech command and the respective recognized speech commands to determine if said user's speech command is recognized speech corresponding to an acoustical score above a first threshold value, unrecognized speech corresponding to an acoustical score below the first threshold value and above

a second threshold value, or non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*).

4. Regarding claims 24 and 28, Iso-Sipilaet et al. disclose a computer program product residing on a computer readable medium having a plurality of instructions stored thereon and a processor and memory configured to:

receive a speech command as spoken by a user (*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*); and

compare the user's speech command to a plurality of recognized speech commands available in a speech library (*memory 4 in figure 5 contains speech recognition models*) according to acoustical scores that indicate a level of acoustical match between the user's speech command and the respective recognized speech commands to determine if said user's speech command is recognized speech corresponding to an acoustical score above a first threshold value, unrecognized speech corresponding to an acoustical score below the first threshold value and above a second threshold value, or non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*).

generate a generic response and provide it to the user if it is determined that the user's speech command is unrecognized speech (*col. 10, lines 30-41*).

5. Regarding claim 34, Iso-Sipilaet et al. further disclose a method comprising:  
accepting data representing an audio signal (*col. 6, line 63 to col. 7, line 5 and referring to 10b in figure 5*);

using speech models according to acoustical scores that indicate a level of acoustical match between the audio signal and respective speech commands to identify the audio signal as belonging to one of three or more categories (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*) including:

(a) recognized speech corresponding to an acoustical score above a first threshold value (*col. 7, lines 5-67*),

(b) unrecognized speech corresponding to an acoustical score below the first threshold value and above a second threshold value (*col. 7, lines 5-67*), and

(c) non-speech corresponding to an acoustical score below the second threshold value (*col. 7, lines 5-67*).

6. Regarding claims 2 and 18, Iso-Sipilaet et al. further disclose that the feedback process further comprises an unrecognized speech response process, responsive to said unrecognized speech comparison process determining that said user's speech

command is unrecognized speech, for generating a generic response which is provided to said user (*col. 10, lines 30-41*).

7. Regarding claims 3-4, Iso-Sipilaet et al. further disclose that a generic response is a visual/audible response (*col. 10, lines 30-41*).

8. Regarding claims 35-38, Iso-Sipilaet et al. further disclose the method of claim 34 further comprising providing feedback according to the category identified for the audio signal (*col. 10, lines 30-41*), wherein the category of non-speech includes background noise and background speech (*col. 7, lines 5-67 and figure 1, unrecognized word that is classified below a second threshold value can be noise or unrecognized speech*), and wherein the category of recognized speech is identified when the audio signal is unambiguously recognized (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold values to determine if the input command is recognized, unrecognized, or very uncertain/noise*).

9. Regarding claim 39, Iso-Sipilaet et al. further disclose the method of claim 34 wherein identifying the category of the audio signal includes computing a quantity characterizing a match of the audio signal with the speech models and identifying the category according to the computed quantity (*col. 7, lines 5-67 and figure 1 shows two different threshold values; score of the recognition result is compared with the threshold*

*values to determine if the input command is recognized, unrecognized, or very uncertain/noise; the confidence score is the quantity).*

10. Regarding claims 5 and 19, Iso-Sipilaet et al. further disclose that the unrecognized speech comparison process includes a user speech modeling process for performing an acoustical analysis of the user's speech command and generating a user speech acoustical model for said user's speech command (*col. 9, lines 31-38, extracting speech features from the input speech signal and comparing the extracted speech features with speech feature models*).

11. Regarding claims 6 and 20, Iso-Sipilaet et al. further disclose that the unrecognizable speech comparison process further includes a recognized speech modeling process for performing an acoustical analysis of each of the plurality of recognized speech commands and generating a recognized speech acoustical model for each recognized speech command, thus generating a plurality of recognized speech acoustical models (*col. 9, lines 31-38, extracting speech features from the input speech signal and comparing the extracted speech features with speech feature models*).

12. Regarding claims 7 and 21, Iso-Sipilaet et al. further disclose that the unrecognized speech comparison process further includes an acoustical model comparison process for comparing the user speech acoustical model to each of the recognized speech acoustical models, thus defining the plurality of acoustical scores

which relate to the user's speech command, one score for each the comparison performed (*col. 9, lines 31-38, extracting speech features from the input speech signal and comparing the extracted speech features with speech feature models producing recognition scores or probabilities*).

13. Regarding claims 8 and 22, Iso-Sipilaet et al. further disclose that the unrecognized speech comparison process further includes an unrecognized speech window process for defining an acceptable range of acoustical scores indicative of unrecognized speech, wherein the user's speech command is defined as unrecognized speech if the acoustical score, chosen from a plurality of acoustical scores, which indicates the highest level of acoustical match falls within an acceptable range of acoustical scores (*col. 9, lines 25-56*).

14. Regarding claims 25-27, Iso-Sipilaet et al. further disclose the computer readable medium is a random access memory (RAM), read only memory (ROM), a hard disk drive (*figure 5, RAM and ROM, RAM or ROM can be considered a hard disk drive*).

15. Regarding claims 29-32, Iso-Sipilaet et al. further disclose the processor and memory of claim 28, wherein said processor and memory are incorporated into a wireless communication device, cellular phone, PDA, and palmtop computer (*figure 5 is a wireless device, or cellular phone; Today's cellular phones have functionalities of a PDA and palmtop, thus, a cellular phone is considered a PDA or palmtop*).



***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iso-Sipilaet et al. (US 6697782) Gammel et al. (US 5832429).

18. Regarding claims 9 and 23, Iso-Sipilaet et al. fail to disclose that a plurality of recognized speech commands includes an unrecognized speech entry, the recognized speech modeling process further performs an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry, and the acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score; wherein the user's speech command is defined as unrecognized speech if an unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores.

However, Gammel et al. teach a process for performing an acoustical analysis on the unrecognized speech entry to generate an unrecognized speech acoustical model for the unrecognized speech entry (*col. 1, lines 30-31 and col. 5, lines 55-63*), and the

Art Unit: 2626

acoustical model comparison process further compares the user speech acoustical model to the unrecognized speech acoustical model to define an unrecognized speech acoustical score (*col. 1, lines 30-31*), wherein the user's speech command is defined as unrecognized speech if an unrecognized speech acoustical score indicates a higher level of acoustical match than any of the plurality of acoustical scores (*col. 8, lines 13-15*).

Since Iso-Sipilaet et al. and Gammel et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Iso-Sipilaet et al. by incorporating the teaching of Gammel et al. in order to create a garbage model used to explain unrecognized speech.

19. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iso-Sipilaet et al. (US 6697782) in view of Gabai et al. (US 6160986).

20. Regarding claim 33, Iso-Sipilaet et al. fail to specifically disclose the processor and memory of claim 28, wherein said processor and memory are incorporated into a child's toy. However, Gabai et al. teach that a processor and memory are incorporated into a child's toy (*figures 6 and 7*).

Since Curry et al. and Gabai et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Curry et al. by incorporating the teaching of

Gabai et al. in order to provide a mean for storing application programs used to process the input speech.

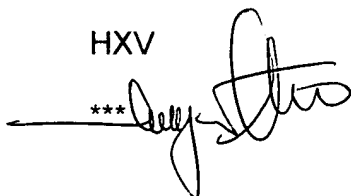
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HXV

\*\*\*

11/14/2006